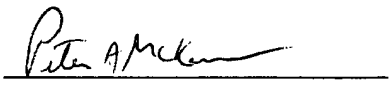
REMARKS

Claims 1-12 have been amended for purposes of increasing clarity and not for purposes of patentability. Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



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Date: November 19, 2001

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) An equalizer controlling method using a sync signal in a digital vestigial sideband (VSB) system, the equalizer controlling method comprising the steps of:

(a) selecting one of ~~signals of the~~ a pre-end signal and a post-end signal of the equalizer according to an input control signal;

(b) separating a sync signal from the signal selected in step (a), and generating a control signal by the separated sync signal;

(c) controlling ~~the~~ an equalizer mode by the sync signal separated in step (b) and the control signal generated in step (b); and

(d) performing equalizing corresponding to the controlled mode.

2. (Amended) The equalizer controlling method of claim 1, wherein said step (a) comprising the sub-steps of precedently performing filtering for removing NTSC components from ~~the signal of~~ the pre-end signal of the equalizer; and selecting one of ~~the signals of~~ the pre-end signal and the post-end signal of the equalizer according to ~~the~~ an on/off control ~~signals~~ signal for controlling the NTSC rejection filtering operation.

3. (Amended) The equalizer controlling method of claim 1, wherein said step (a) comprising the sub-steps of:

(a1) sampling ~~the~~ a received ground wave broadcasting signal according to a fixed frequency clock and converting the sampled result ~~in~~ to digital form;

(a2) interpolating and filtering the digital converted broadcasting signal of sub-step (a1) to thereby generate an intermediate value corresponding to each value positioned between the samples, and outputting appropriate values among the intermediate values positioned between the samples according to ~~the~~ a symbol timing recovered signal;

(a3) correcting the frequency and phase errors of ~~the~~ a carrier in the output signal of sub-step (a2), and converting the frequency and phase error corrected signal into a baseband signal using the error corrected carrier;

(a4) limiting ~~the~~ a band of a baseband signal of sub-step (a3) and performing symbol timing recovery from the band limited signal; and

(a5) selecting one of the band limited signal of sub-step (a4) and the output signal of the equalizer, and outputting the selected signal.

4. (Amended) The equalizer controlling method of claim 1, wherein said step (c) controls the equalizer controlling mode into one mode of ~~the~~ a plurality of equalizer modes, said plurality of equalizer modes including a blind mode and a training mode for the equalizer.

5. (Amended) An equalizer controlling apparatus using a sync signal in a digital vestigial sideband system (VSB), the equalizer controlling apparatus comprising:

a recovery unit performing symbol timing and carrier recovery of digital received data;

an equalizer performing equalizing with respect to ~~the~~ an output signal of the recovery unit;

a switching unit connected between ~~the~~ an output end of the recovery unit and ~~that~~ an output end of the equalizer, for selecting one of two output signals;

a sync signal separator and control signal generator for separating a sync signal from the signal selected in the switching unit and generating various control signals according to the separated sync signal; and

a mode controller for controlling a mode of the equalizer according to the control signals generated in the sync signal separator and control signal generator.

6. (Amended) The equalizer controlling apparatus of claim 5, wherein said recovery unit comprises:

an oscillator for generating a fixed frequency clock;

an analog-to-digital (A/D) converter for converting ~~the~~ a received analog signal into a digital form according to the fixed frequency clock generated in the oscillator;

an interpolation filter for generating ~~an~~ intermediate ~~value~~ values corresponding to ~~a signal~~ signals positioned between the samples of the digital reception data applied from the A/D converter and outputting appropriate values among the intermediate values positioned between the samples under the control of the symbol timing recovery unit;

a carrier recovery unit for correcting ~~the~~ frequency and phase errors of the output signal of the interpolation filter and recovering a carrier;

a multiplier for multiplying the output of the carrier recovery unit by the output of the interpolation filter;

a matched filter for signal-matching ~~the~~ an output signal of the multiplier; and

a symbol timing recovery unit for receiving the output signal of the matched filter and performing the symbol timing recovery, to thereby control the interpolation filter.

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7. (Amended) The equalizer controlling apparatus of claim 6, further comprising a NTSC rejection filter (NRF) connected between the matched filter and the equalizer, for performing filtering in order to remove NTSC components from the output signal of the matched filter.

8. (Amended) The equalizer controlling apparatus of claim 7, further comprising a NRF controller for controlling the NRF to be turned on/off.

9. (Amended) The equalizer controlling apparatus of claim 8, wherein said switching unit receives the output signals of the matched filter and the equalizer and selects one of ~~the~~ two input signals according to the NRF on/off control signals applied from the NRF controller to then be output to the sync signal separator and control signal generator.

10. (Amended) The equalizer controlling apparatus of claim 9, wherein said switching unit selects the output signal of the matched filter ~~in the case that~~ when the NRF ~~operates~~ is operating~~in an on state~~, and selects the output signal of the equalizer ~~in the case that~~ when the NRF ~~does not operate~~ is not operating~~in an off state~~.

11. (Amended) The equalizer controlling apparatus of claim 10, wherein said sync signal separator and control signal generator separates a data segment sync signal and a data field sync signal from the signal selected from the switching unit.

12. (Amended) The equalizer controlling apparatus of claim 5, wherein said mode controller controls the equalizer to operate ~~at~~ in a blind mode ~~in the case that it is judged that~~ when a ghost generation is determined ~~and~~ or when a sync signal separation is unstable is determined from the control signals produced from the sync signal separator and control signal generator, and to operate ~~at~~ in a training sequence mode in the other cases.